PROP. III. THEOR. I.

Si pro abſciſſa AB & area AE ſeu AB×1 promiſcue ſcribatur z, & ſi pro $e + fz^n + gz^{2n} + hz^{3n} +$ &c. ſcribatur R: ſit autem area Curvæ $z^\theta R^\lambda$ erit ordinatim applicata BC=

$$\theta e + \frac{\theta}{+\lambda n} fz^n + \frac{\theta}{+2\lambda n} gz^{2n} + \frac{\theta}{+3\lambda n} hz^{3n} + \text{&c. in } z^{\theta-1} R^{\lambda-1}.$$

Demonſtratio.

Nam ſi ſit $z^\theta R^\lambda = v$, erit per Prop. 1, $\theta z z^{\theta-1} R_\lambda + \lambda z^\theta \dot{R} R^{\lambda-1} = \dot{v}$. Pro R^λ in primo æquationis termino & z^θ in ſecundo ſcribe $RR^{\lambda-1}$ & $zz^{\theta-1}$, & fiet $\theta z \dot{R} + \lambda z \dot{R}$ in $z^{\theta-1} R^{\lambda-1} = \dot{v}$. Erat autem $R = e + fz^n + gz^{2n} + hz^{3n}$ &c. & inde per Prop. 1. fit $\dot{R} = n f \dot{z} z^{n-1} + 2n g z \dot{z} z^{2n-1} + 3n h z \dot{z} z^{3n-1} +$ &c. quibus ſubſtitutis & ſcripta BE ſeu 1 pro z, fiet

$$\theta e + \frac{\theta}{+\lambda n} fz^n + \frac{\theta}{+2\lambda n} gz^{2n} + \frac{\theta}{+3\lambda n} hz^{3n} + \text{&c. in } z^{\theta-1} R^{\lambda-1} = v = BC.$$

Q. E. D.

PROP.

PROP. IV. THEOR. II.

Si Curvæ abſciſſa AB ſit z, & ſi pro $e + fz^n + gz^{2n} +$ &c. ſcribatur R, & pro $k + lz^n + mz^{2n} +$ &c. ſcribatur S; ſit autem area Curvæ $z^\theta R^\lambda S^\mu$: erit ordinatim applicata BC=

$$\left.\begin{array}{l} \theta ek + \frac{\theta}{+\lambda n} fk\, z^n + \frac{\theta}{+2\lambda n} gk z^{2n} \cdot * \cdots * \cdots \\ + \frac{\theta}{+\mu n} el\, z^n + \frac{\theta}{+\lambda n, +\mu n} fl z^{2n} + \frac{\theta}{+2\lambda n, +\mu n} glz^{3n} * \cdots \\ + \frac{\theta}{+2\mu n} emz^{2n} + \frac{\theta}{+\lambda n, +2\mu n} fmz^{3n} + \frac{\theta}{+2\lambda n, +2\mu n} gmz^{4n} \end{array}\right\} \text{in } z^{\theta-1} R^{\lambda-1} S^{\mu-1}$$

Demonſtratur ad modum Propoſitionis ſuperioris.

PROP. V. THEOR. III.

Si Curvæ abſciſſa AB ſit z, & pro $e + fz^n + gz^{2n} + hz^{3n} +$ &c. ſcribatur R: ſit autem ordinatim applicata $z^{\theta-1} R^{\lambda-1}$ in $a + bz^n + cz^{2n} + dz^{3n} +$ &c. & ponatur $\frac{\theta}{n} = r$. $r + \lambda = s$. $s + \lambda = t$. $t + \lambda = v$. &c. erit area $z^\theta R^\lambda$ in

$$\frac{\frac{s}{n}a}{re} + \frac{\frac{s}{n}b - sfA}{\overline{r+1}, e} z^n + \frac{\frac{s}{n}c - \frac{s}{-1}fB - tgA}{\overline{r+2}, e} z^{2n} + \frac{\frac{s}{n}d - \frac{s}{-2}fC - \frac{t}{-1}gB - vhA}{\overline{r+3}, e} z^{3n} + \frac{\frac{s}{-3}fD - \frac{t}{-2}gC - \frac{v}{-1}hB}{\overline{r+4}, e} z^{4n} + \text{&c.}$$

Ubi A, B, C, D, &c.